

IN THE CLAIMS:

1-25 (Canceled)

26. (Previously Presented): An apparatus comprising:

a housing;

an opening in the housing configured to pass a substrate into the housing;

a chuck located within the housing, wherein the chuck is configured to hold the substrate for processing and wherein the substrate may be spun using the chuck;

an inlet within the housing, wherein the inlet is configured for connection to a source for a precursor silica solution and wherein the inlet is configured to deposit the precursor silica solution onto the substrate held by the chuck and wherein a film of the precursor solution may be formed on the substrate; and

a vapor dispense head, wherein the vapor dispense head is configured to receive a catalyst and introduce the catalyst onto the wafer in a uniform manner such that the catalyst becomes homogeneously diffused into the film and forms pores in the film, and

wherein the vapor dispense head is configured to receive a gas mixture and introduce the gas mixture into the housing during a drying phase to maintain capillary pressure within the pores formed in the film.

27. (Original): The apparatus of claim 26, wherein the substrate is a semiconductor wafer.

28. (Original): The apparatus of claim 26, wherein the substrate is a substrate for an integrated circuit.

29. (Original): The apparatus of claim 26, wherein the substrate is a substrate for a chemical sensor.

30. (Previously Presented): The apparatus of claim 32, wherein the vapor distribution unit is a mesh unit.

31. (Previously Presented): The apparatus of claim 30, wherein the mesh unit is made of a polytetrafluoroethylene material.

32. (Previously Presented): The apparatus of claim 26, further comprising:
a vapor distribution unit that uniformly distributes the catalyst.

33. (Previously Presented): The apparatus of claim 26, wherein the gas mixture is a mixture of a carrier gas and a vapor.

34. (Previously Presented): The apparatus of claim 33, wherein the carrier gas is nitrogen.

35. (Previously Presented): The apparatus of claim 33, wherein the vapor is water vapor.

36. (Currently Amended): The apparatus of claim 33, wherein the apparatus is configured to increase a carrier gas to vapor ratio ~~is increased~~ from a first ratio during deposition and spinning to a second ratio during drying.

37. (Currently Amended): The apparatus of claim 26, wherein the apparatus is configured to introduce the gas mixture ~~is introduced~~ into the housing at a first pressure and ~~reduced to reduce a pressure of the gas mixture~~ to an ambient pressure during the drying phase.